ART 1 AND 2 MAINTENANCE NOTE 22 (for Electronics Technicians)
Maintenance, Logistics, and Acquisition Division
W/OPS12: KC

SUBJECT : Replacement of the Eaton 7000 ART Data Printer

PURPOSE : To provide instructions for the replacement of the Eaton 7000 ART Data Printer when the current printer fails.

EQUIPMENT AFFECTED : All ART systems in the CONUS, Alaskan, and Pacific regions.

PARTS REQUIRED : The following parts may be ordered through the National Logistics Support Center (NLSC):

EQUIPMENT	ASN	MANUFACTURER/ MODEL
PRINTER, DATA, ART (with cable and power supply)	ASN: J170-4B (Replaces J170-4)	STAR MICRONICS DP8340FM
PAPER, PRINTER	ASN: 018-C-52	
RIBBON, PRINTER	ASN: 018-R-16	

SPECIAL TOOLS REQUIRED : None.

MODIFICATION PROCUREMENT : None.

EFFECTIVITY : Upon failure of an ART 1 or ART 2 Data Printer.

ESTIMATED TIME REQUIRED : Approximately 15 Minutes.

EFFECT ON OTHER INSTRUCTIONS : None.

AUTHORIZATION : N/A

VERIFICATION STATEMENT : This maintenance note was tested at the National Reconditioning Center (NRC) in Kansas City, MO.

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GENERAL

The current ART Data Printer is no longer manufactured, nor is it economical to repair. This maintenance note contains instructions for the replacement of an ART Printer when the current printer fails. The current printer being used in the ART system is the Eaton 7000, Servo P/N 900130-01.

PROCEDURE

The new ART Data Printer is a Star Micronics Model DP8340FM which has been modified by NRC to replace the DB9-pin female connector with a DB25-pin connector to make the new printer compatible with the ART System. When received by the field, the new printer will include a power supply and a communications cable and will be a direct "plug and play" replacement for the current ART Printer. The new printer will however require new paper and ribbon to match the new printer.
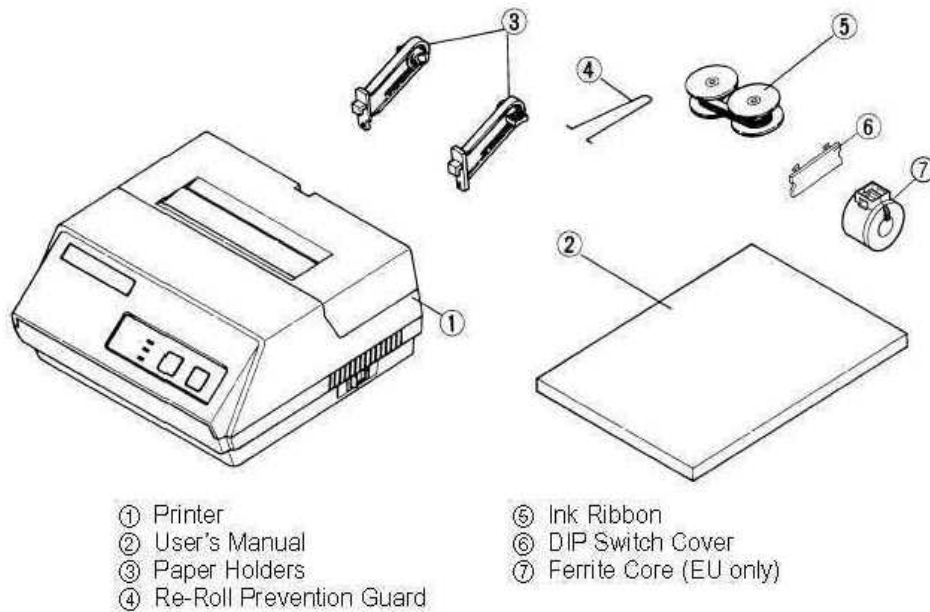
Name	ASN	Part Number	Remarks
ART Data Printer, STAR MICRONICS with cable and power supply	ASN: J170-4B	DP8340FM-120A	Replaces J170-4, Eaton 7000 printer
Power Supply		PS8340-120	120 VAC in - 12 VDC out
RS232C Serial Interface Cable		DP8340-DB9-FEM	Male Connectors RJ45 and DB25 (Manufactured by NRC)
STAR MICRONICS DP8340FM Printer Paper	ASN: 018-C-52	SPE-45X 31PB	Roll Paper, 1 ply, 4.5 inches wide
STAR MICRONICS DP8340FM Printer Ribbon	ASN: 018-R-16	DP8340-BR/ SF-03BR	2 color black/red ribbon

1. PRINTER UNPACKING AND INSTALLATION

1.1   Unpack Printer and Power Supply

Open the box and check to ensure that all accessories are included as shown in Figure 1-1:

(A) Printer

① Printer
② User's Manual
③ Paper Holders
④ Re-Roll Prevention Guard
⑤ Ink Ribbon
⑥ DIP Switch Cover
⑦ Ferrite Core (EU only)

(B) Power Supply Unit

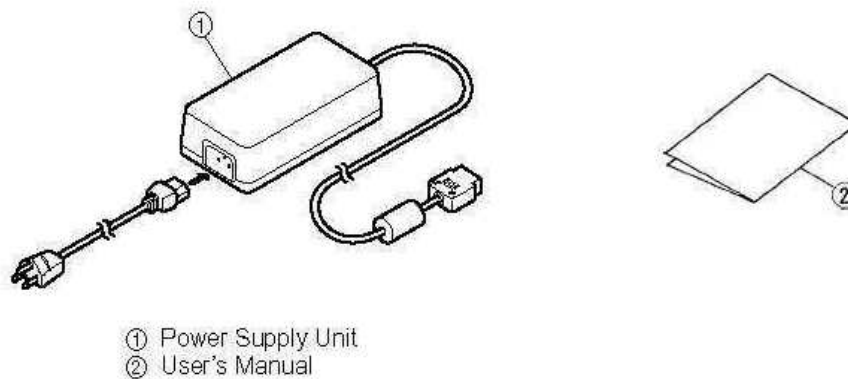① Power Supply Unit
② User's Manual

Figure 1-1. Printer and Power Supply Unpacking

1.2   ART 1 and 2 Printer Connections

Install the DP8340 FM Printer using the cable connections identified in Figure 1-2:

NOTE: NRC has set the correct Dip Switch Settings on all printers.
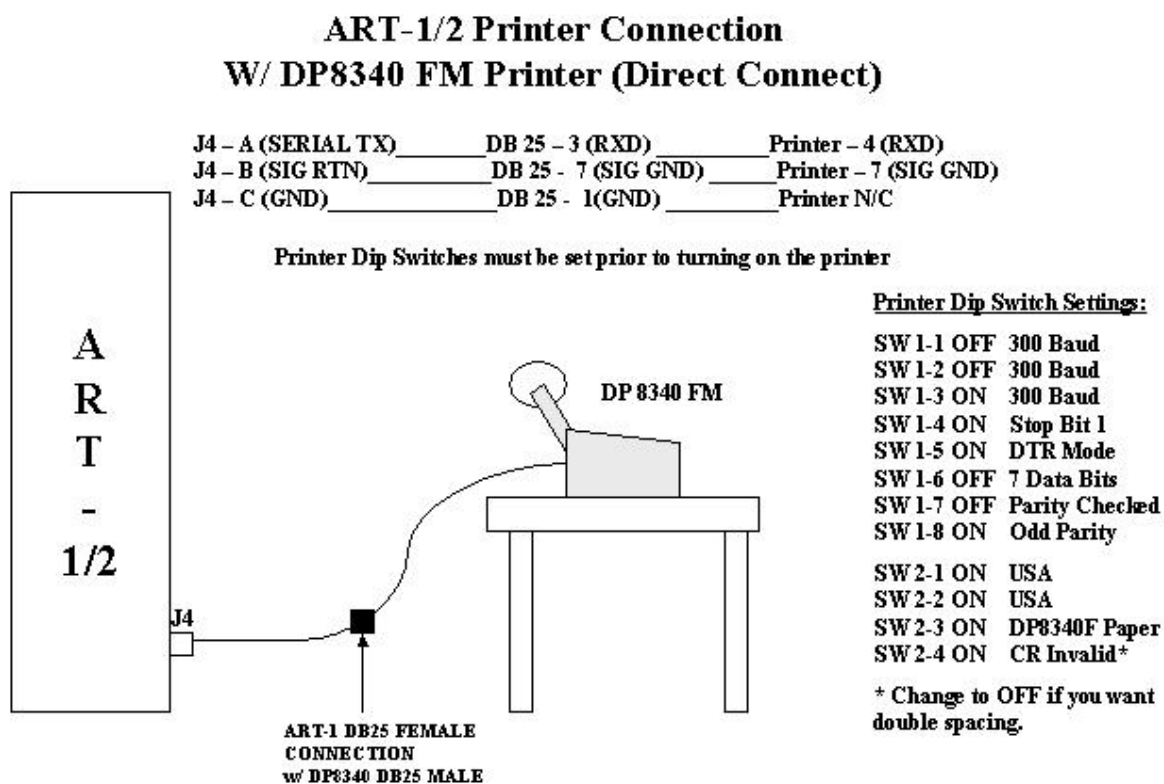

Figure 1-2. Printer Connections

1.3   Installation of Paper Holders and Re-Roll Prevention Guard (If applicable)

1.   Install the Paper Holders in the outermost holes in the rear of the printer as shown in Figure 1-3.
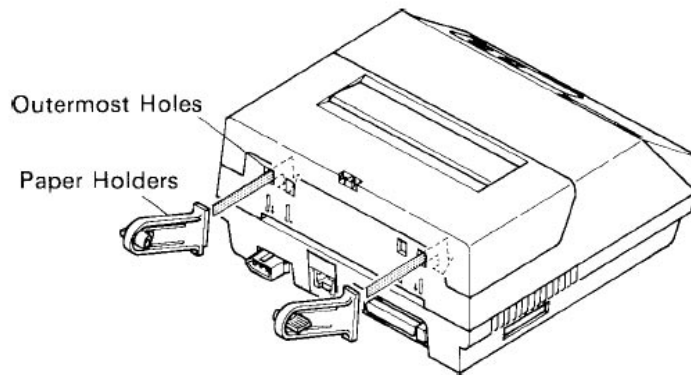

Figure 1-3. Installation of Paper Holders

2.   Install the Re-Roll Prevention Wire in the holes of the printer cover. Twisting the wire as shown in Figure 1-4, will make the installation easier.
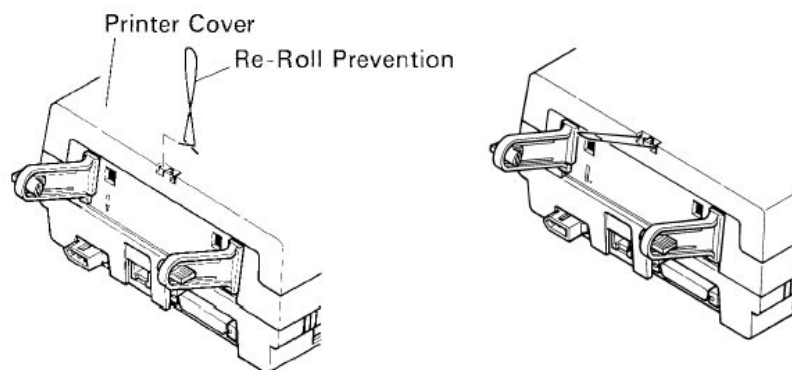

Figure 1-4. Installation of Re-Roll Prevention

1.4   Handling Notes

- Install the printer near an easily accessible socket-outlet.

- Place the unit on a flat and stable surface for operation.

- Do not connect the AC Power Plug to the same outlet used for other noise generating devices (large motors, etc.).

- Be careful not to drop paper clips, pins and other foreign objects into the unit.

- Wipe off dirt with a soft cloth soaked in alcohol or benzine.

<div style="text-align:center">

CAUTION

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Do not use Lacquer thinner, Trichlorethelene or Ketone solvents because they may damage plastic parts.

- Use a soft brush, etc. for cleaning the printer mechanism and PCB.

- Keep hands out of the printer while power is on.

- Do not attempt to print when there is no ink ribbon or paper in the unit. The print head life could be severely reduced.

- If the paper is fastened tightly to the roll, the paper may not detach from the roll when the end is reached. If this happens, the no paper detection function and paper feed will not operate.

- Always keep the printer cover attached when printing to prevent paper jams, noise, and other problems.

- Always turn the power off before opening the printer cover (e.g., when renewing an ink ribbon).

2. INSTALLATION OF INK RIBBON AND PAPER

2.1   Installation of Ink Ribbon

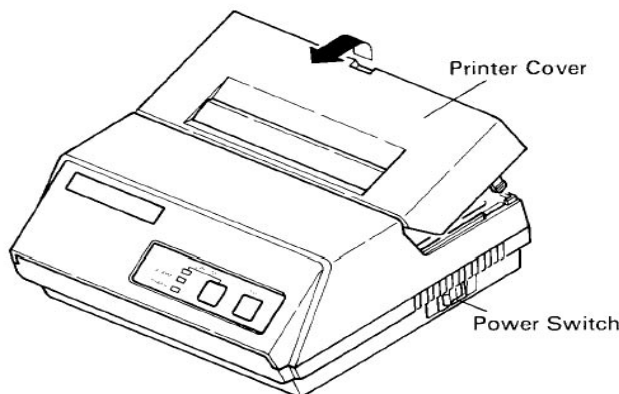1. Turn power off, lift the Printer Cover up. See Figure 2-1.

Figure 2-1. Printer Cover Removal

2. Remove the ribbon. Hold the spool and lift gently, rotating it until the ribbon sags. Push the ribbon detecting lever out, lift the spool until it comes off the shaft. Remove the second spool in a similar manner. (Do not apply excessive force when lifting spools.)

CAUTION

Be careful not to touch the print head immediately after printing, because it can get very hot.

3. To install the new ribbon, unwind ribbon so the spools are separated as shown in Figure 2-2. Hold the ribbon taut, as shown, with the drive pins facing down and slide the ribbon between the print head and the platen. While keeping the ribbon taut, wrap one side around the black ribbon guide on the end of the platen and drop one spool on the spool shaft. As you move the spool downwards, move the detecting lever aside to allow the spool to drop into place. Make sure the spool drive pins engage with the spool drive holes. As the spool drops into place there will be a click.
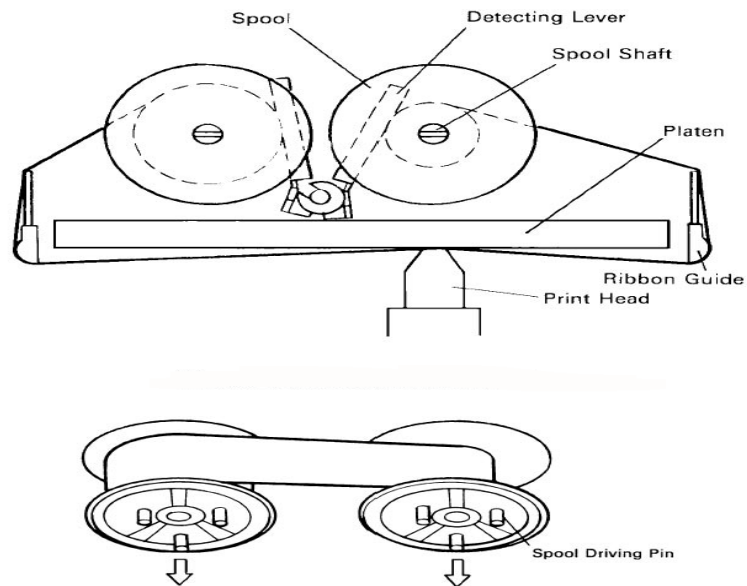
Figure 2-2. Installation of Ink Ribbon and Ribbon Spools

4. While continuing to hold the ribbon taut, install the remaining ribbon spool in a similar fashion.

5. Turn the spool that rotates freely to take up the ribbon slack.

2.2   Paper Insertion

1. Cut the Roll Paper end straight and square. Hold the roll so the paper comes from the bottom.

2. According to Figure 2-3, attach the Roll Paper to the Holders Paper by slipping one side of the roll onto the Hub and pulling the other Hub out to allow the roll to slip in place.
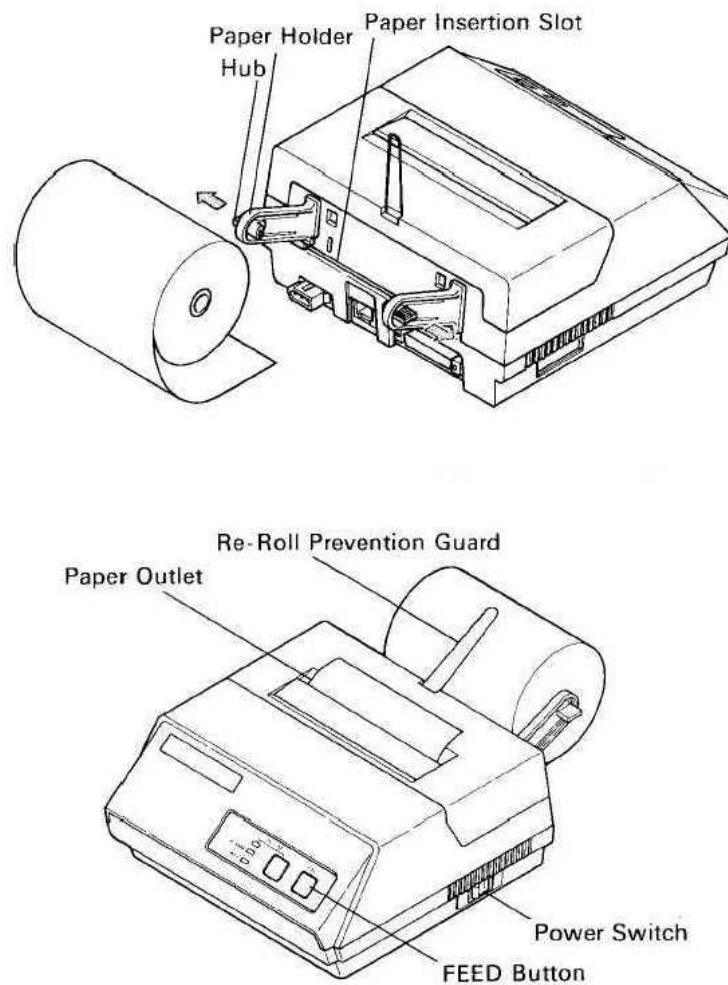

Figure 2-3 Paper Insertion (Model DP8340F)

3. Insert the paper evenly into the Paper Insertion Slot.

4. Turn the Power Switch **ON**, and press the **FEED** button. The paper feeds into the unit.

2.3   Paper Removal

Cut the paper close to the slot and use the **Feed** button until paper has passed completely through the printer.

NOTE: Do not try to remove the paper by hand as it could become crooked and get jammed inside the printer.

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3.   PARTS IDENTIFICATION AND NOMENCLATURE

3.1   Power Supply Unit. See Figure 3-1.

DC Power Connector (Output)

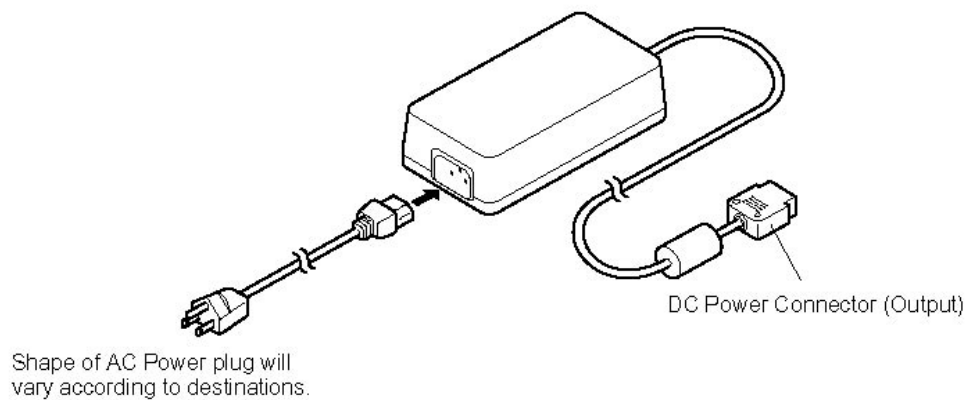Shape of AC Power plug will vary according to destinations.
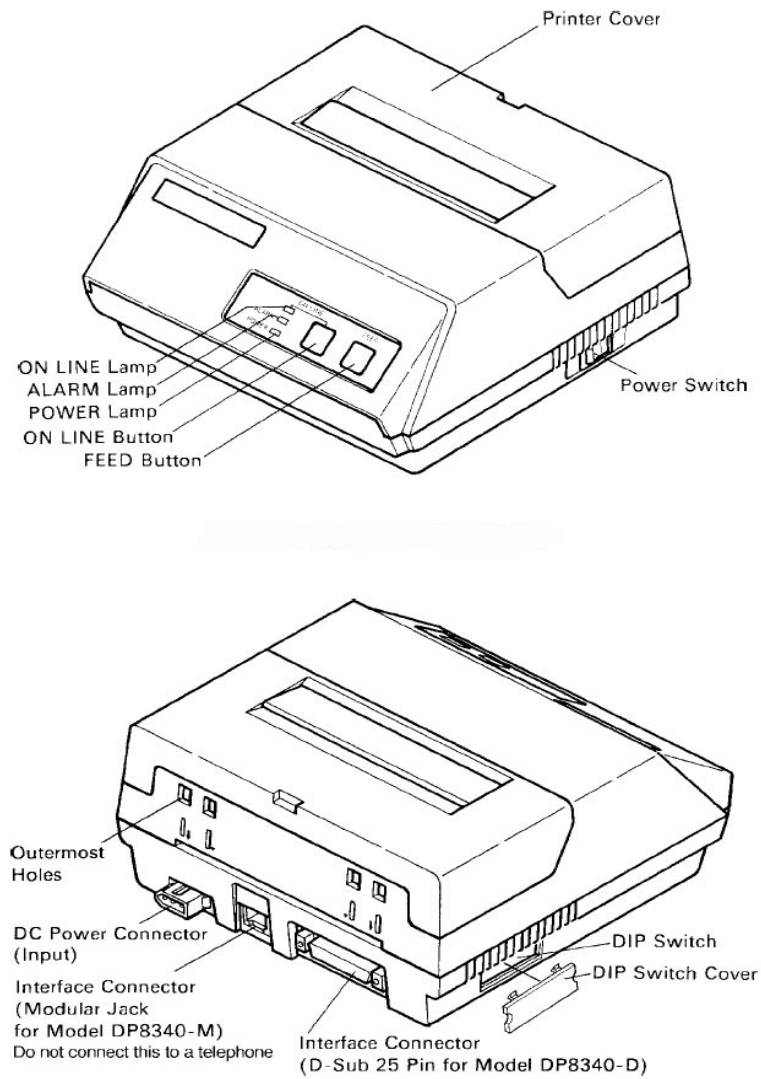
Figure 3-1. Power Supply Unit

3.2   Printer Description. See Figure 3-2.

Figure 3-2. Printer: Front and Rear View

3.3   Printer Functional Description

- **AC Power Plug** - Connect to an outlet of the specified voltage.

- **DC Power Outlet** - Supplies DC 12V power to the printer.

- **Printer Cover** - Protects the printer against dust and reduces noise.

- **POWER Lamp** - Lights up (green LED) when power is on.

- **ON LINE Lamp** - Lights up (green LED) when the unit is in the online mode.

- **ALARM Lamp** - Lights up (red LED) when printer operation is not normal, or the printer is out of paper. It is necessary to install paper into the printer and press the ON LINE Button to recover from paper empty status. Turn off the printer power in order to recover from abnormal operation.

- **ON LINE Button** - Toggles between the on-line and off-line modes. The printer will go on-line after turning power on.

- **FEED Button** - Momentary operation of this button provides one line feed. Pressing this button continuously causes continuous paper feed. If power is turned on while pressing this button, self printing * is performed.

  - *   **Self Printing** - This printer has another convenient function, the Automatic Test Printing. With the ink ribbon and paper properly installed in the printer, turn the power ON while holding down the Feed switch. Test printing starts and stops again automatically.

- **Interface Connector** - Connects the printer to host computers. Check that both computer and printer are off before connecting.

- **DIP Switches** - Allows for setting of various functions according to user requirements.

REPORTING INSTRUCTIONS:

None.

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